



Player One Astronomy

Firmware Update Tool Manual

Revision 1.2

Sep 2025

1.Update firmwares for camera:

Visit our official website and download '**FirmwareUpdateTool**': As shown in Figure 1:

Link:<https://player-one-astronomy.com/service/firmwares/>

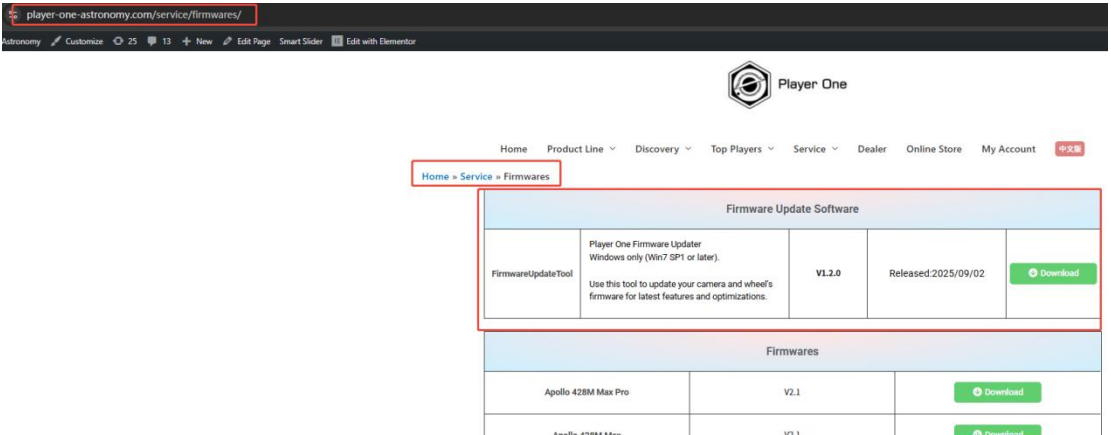


Figure 1

After extract is complete, double-click '**FirmwareUpdateTool.exe**' to start the firmware update APP. As shown in Figure 2:

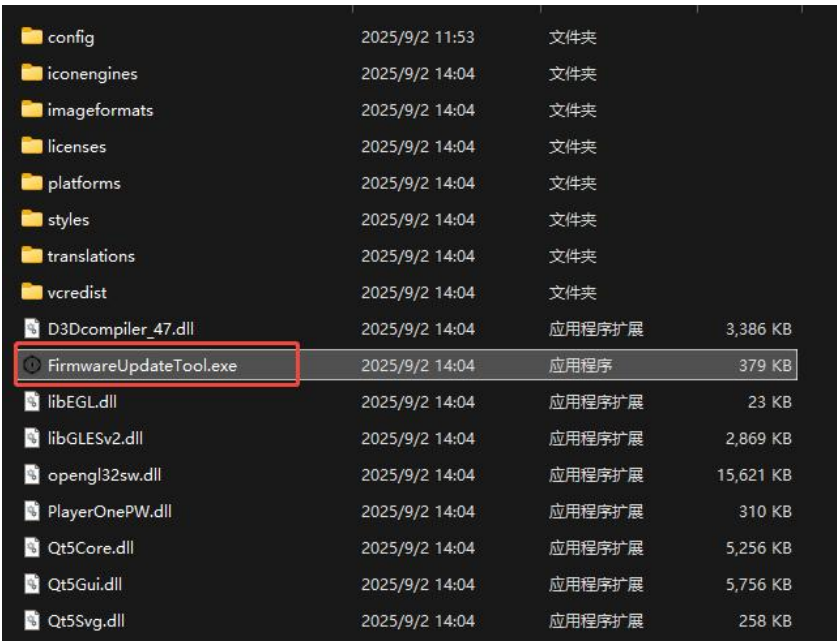


Figure 2

If it fails to run, and errors such as "**Missing MSVCP140.dll,VCRUNTIME140.dll**" appear, please install "**VC_redist.x86.exe**" under the '**vcredist**' folder. As shown in Figure 3:



Figure 3

Please plug the camera that will be written to the firmware, and confirm it in the "**camera**" column.

Then, in the "**Current Camera Info**" column, you can view the current firmware version.

Take Figure 4 as an example. Here, the FW Version of the **Uranus-C** camera is **V2.0**, and the FPGA version is **V1.6**.

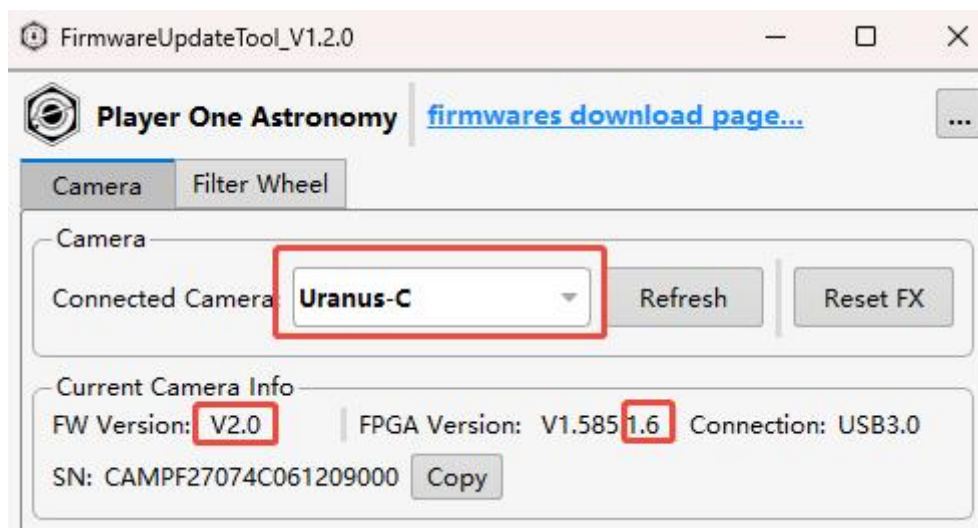


Figure 4

Click on "**firmwares download page...**" This will enable you to access the firmware download page. As shown in Figure 5. (Or you can directly enter this website address:

<https://player-one-astronomy.com/service/firmwares/>

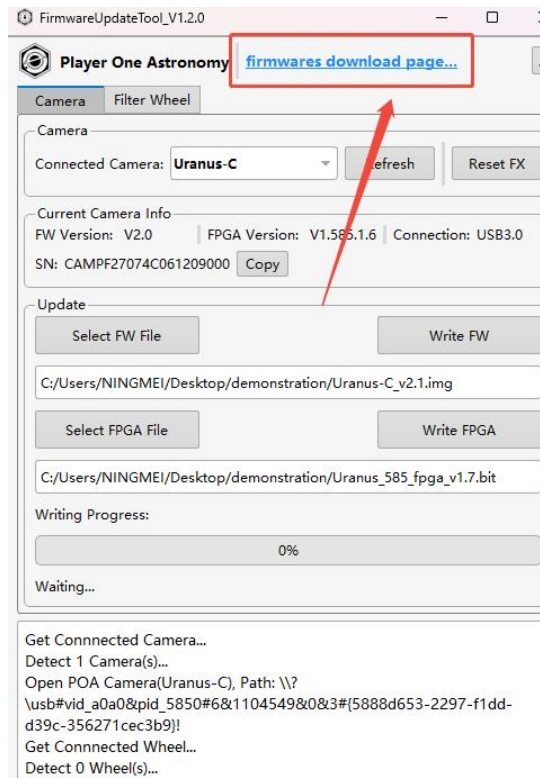


Figure 5

Then, download the firmware you need. Here, we take the FW of **Uranus-C** as examples. It can be seen that the latest firmware version is **V2.1**. As shown in Figure 6.

Sedna-M	V2.1	Download
Uranus-C Pro	V2.1	Download
Uranus-C	V2.1	Download
Uranus-M Pro	V2.3	Download
Uranus-M	V2.3	Download

Figure 6

Extract the downloaded file. In the **"Update"** column of the software, click **"Select FW File"** and select the extracted file. The file extension should be **.img**. As shown in Figure 7.

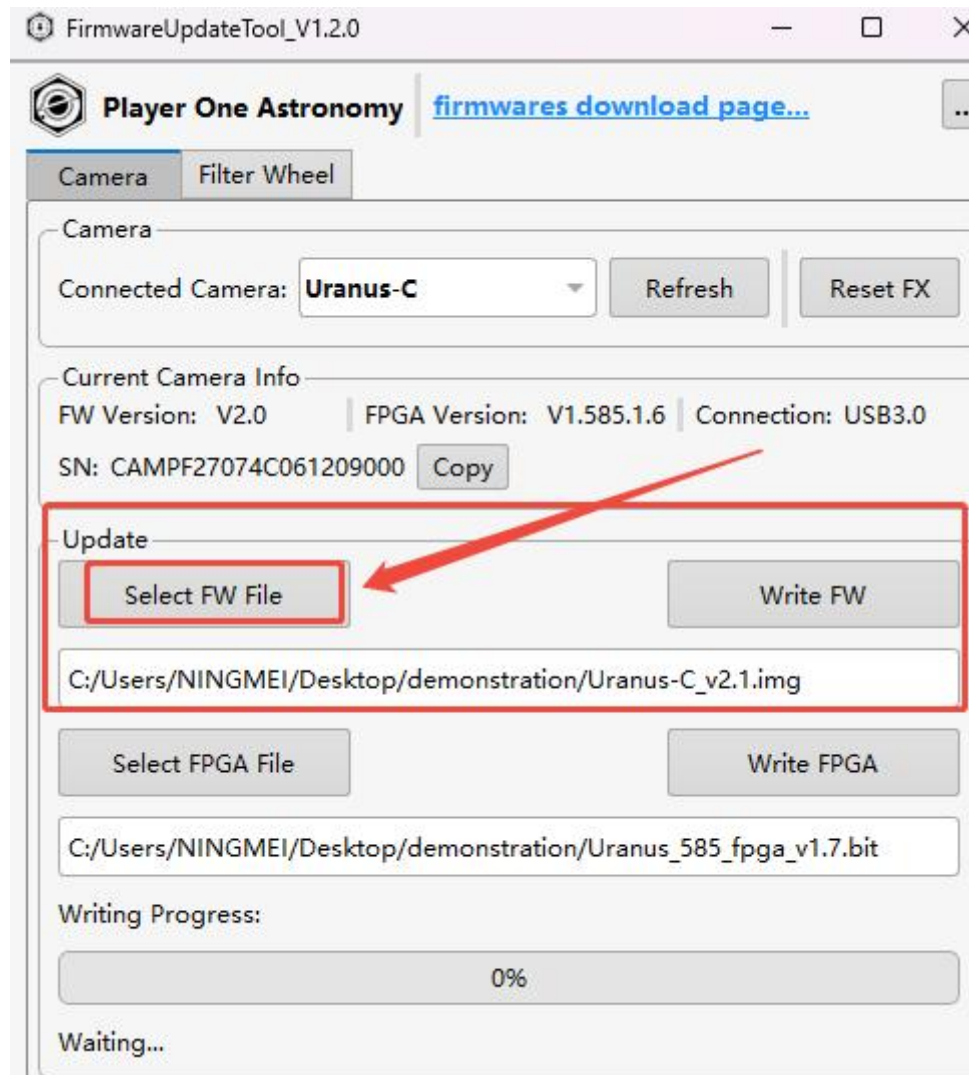


Figure 7

Then, please click **"Write FW"** to perform the firmware writing process. As shown in Figure 8.

Please note: Before performing the write operation, do not allow any other software to connect to the camera.

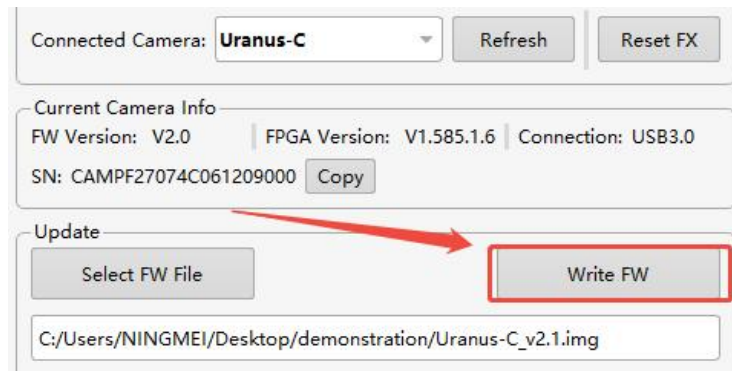


Figure 8.

Wait until the progress bar finishes loading. **Disconnect the camera and then replug it.** At this point, you can see that the FW version has been successfully upgraded to **V2.1**. As shown in Figure 9.

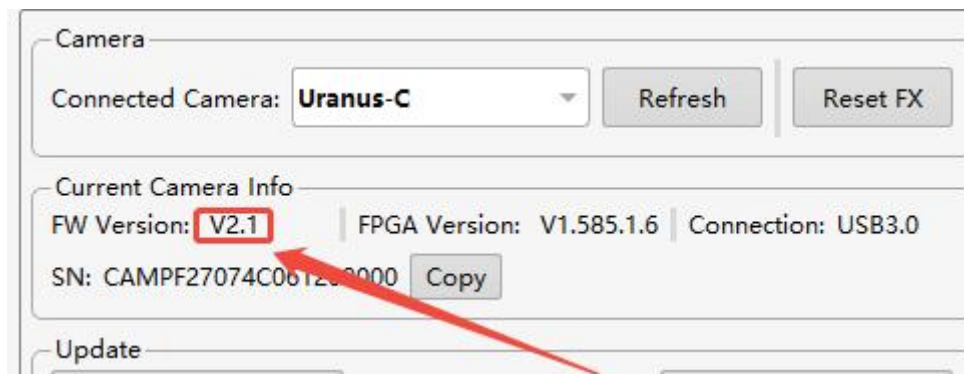


Figure 9

2.Update FPGA for camera:

If you need to upgrade the FPGA, the procedure is the same.

Please note: In most cases, it is strongly not recommended to upgrade the FPGA of the camera.

First, please download the FPGA file from the website. As shown in Figure 10.

Fpga		
Note:	In most cases, it is strongly not recommended to upgrade the FPGA of the camera.	
Uranus Pro 585 (cooled camera)	V1.7 (for HDR)	Download
Uranus 585 (planet camera)	V1.7 (for HDR)	Download

Figure 10

Here, let's take Uranus-C as an example again. Download and extract it, and you will obtain a file with the suffix ".bit". In the "Update" column of the software, click "Select FPGA File" and select the extracted file. As shown in Figure 11.

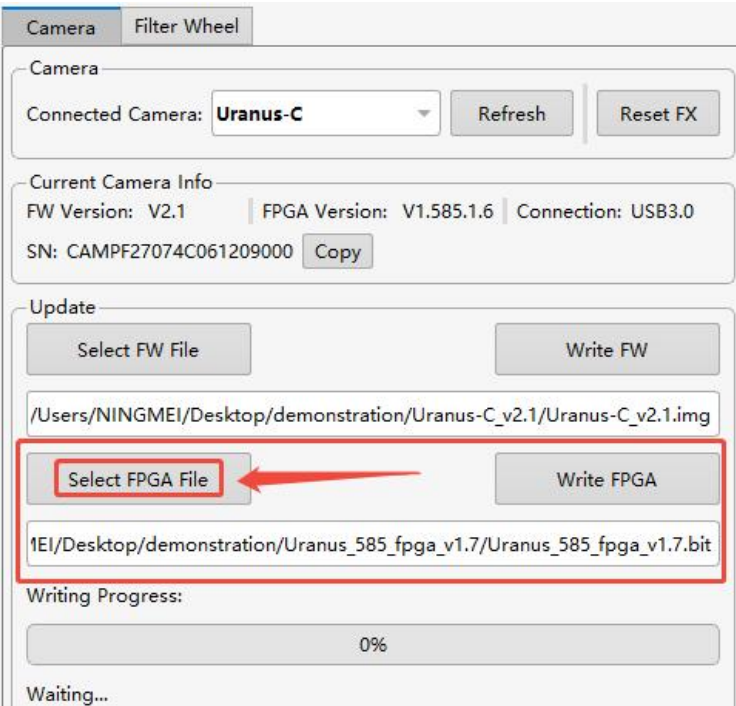


Figure 11

Then, please click "Write FPGA". As shown in Figure 12.

Please note: Before performing the write operation, do not allow any other software to connect to the camera.

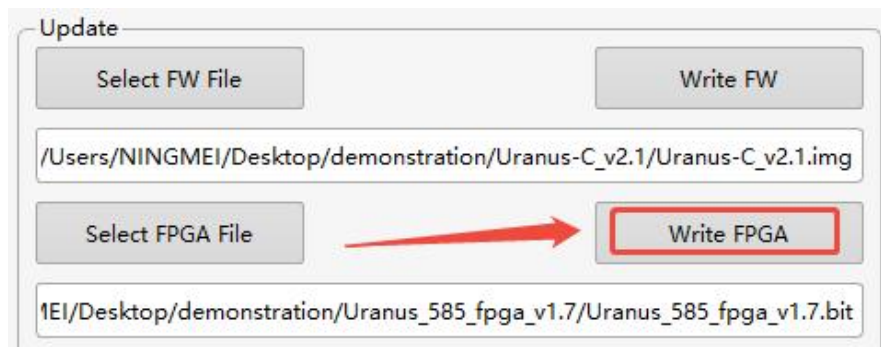


Figure 12

Wait until the progress bar finishes loading. **Disconnect the camera and then replug it.** At this point, you can see that the FPGA version has been successfully upgraded to **V1.7**. As shown in Figure 13.

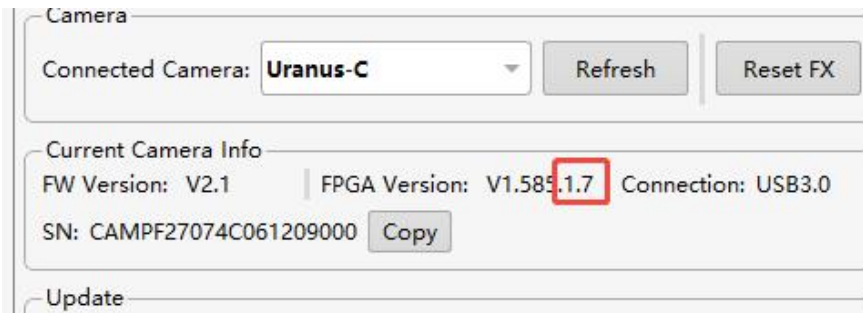


Figure 13

3. Update firmwares for filter wheel:

First, please click on the "Filter Wheel" at the top. Please plug the filter wheel that will be written into the firmware, and confirm it in the "**Filter Wheel**" column.

Then, in the "**Current PW Info**" column, you can view the current firmware version.

Take Figure 14 as an example. Here, the FW Version is **V1.6**.

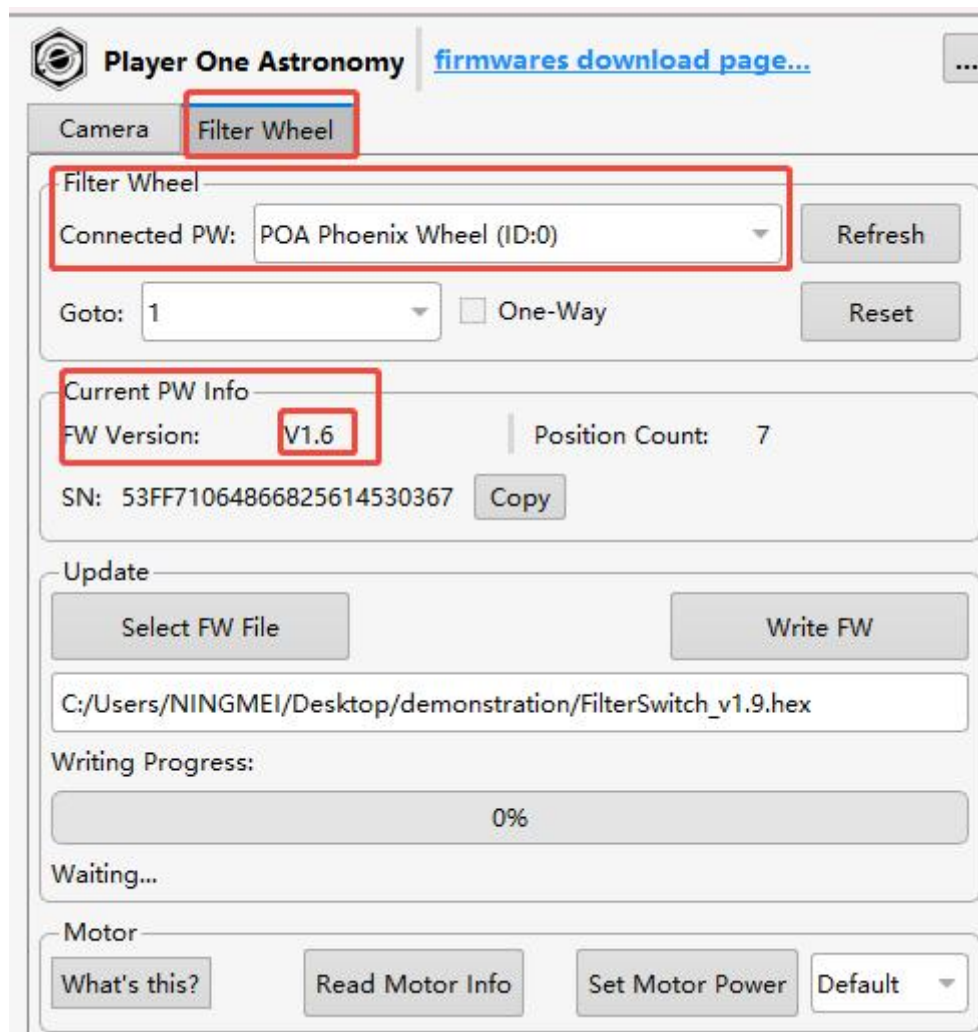


Figure 14

Then, please download the FW file from the website. As shown in Figure 15.

Please note: The V1.x and V2.x firmware version of the filter wheel are not compatible.

Here, we take the filter wheel of version V1.x as an example.

FilterWheel V1.x (Incompatible with V2.x)	V1.9	Download
FilterWheel V2.x (Incompatible with V1.x)	V2.4	Download

Figure 15

Download and extract it, and you will obtain a file with the suffix ".hex". In the "Update" column of the software, click "Select FW File" and select the extracted file. As shown in Figure 16.

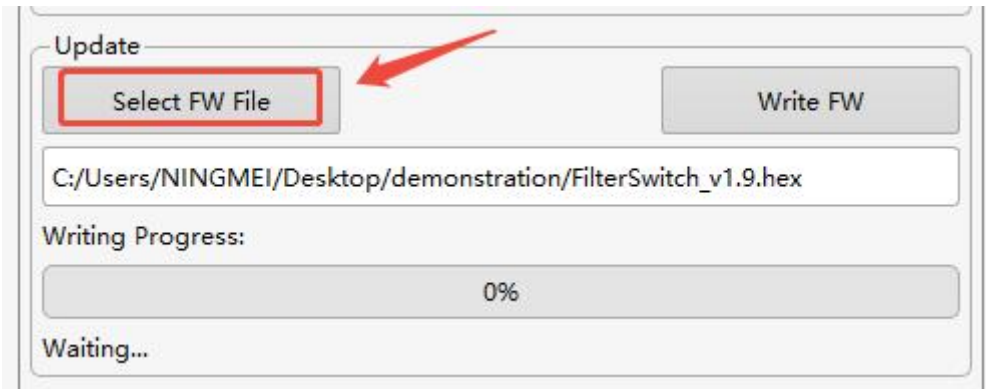


Figure 16

Then, please click "Write FW". As shown in Figure 17.

Please note: Before performing the write operation, do not allow any other software to connect to the filter wheel.

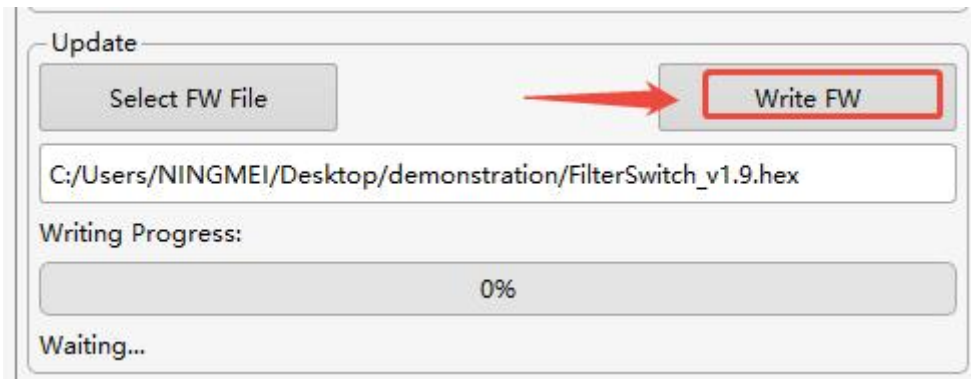
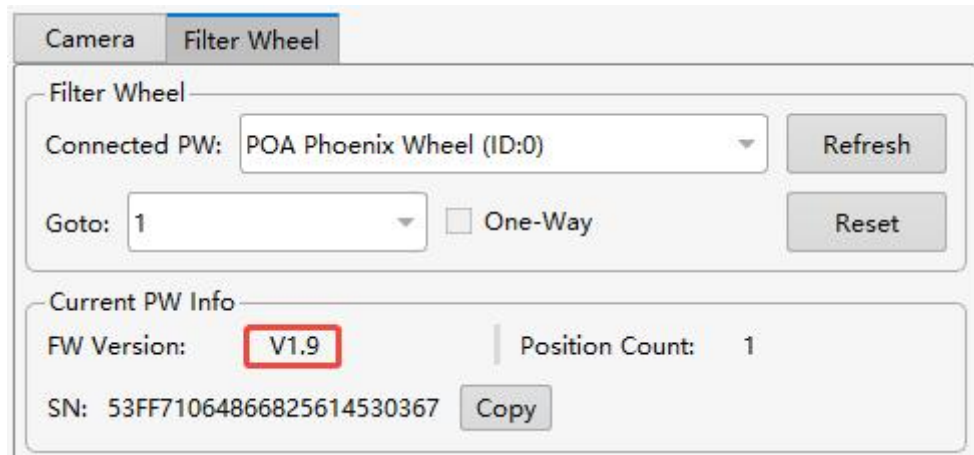


Figure 17

Wait until the progress bar finishes loading. **Disconnect the filter wheel and then replug it.** At this point, you can see that the FW version has been successfully upgraded to **V1.9**. As shown in Figure 18.



The screenshot displays a software interface for controlling a filter wheel. At the top, there are two tabs: 'Camera' and 'Filter Wheel', with 'Filter Wheel' being the active tab. Below the tabs, the 'Filter Wheel' section contains a 'Connected PW:' dropdown menu showing 'POA Phoenix Wheel (ID:0)', a 'Goto:' dropdown menu showing '1', and an unchecked 'One-Way' checkbox. To the right of these controls are 'Refresh' and 'Reset' buttons. Below this section is the 'Current PW Info' section, which displays 'FW Version: V1.9' (where 'V1.9' is highlighted with a red box), 'Position Count: 1', and 'SN: 53FF71064866825614530367' with a 'Copy' button next to it.

Figure 18

4.Adjust the motor power of the filter wheel:

Please note: If the filter wheel is functioning properly, it is not recommended to proceed with this step.

Click on the "**Motor**" column and then select "**Read Motor Info**" to view the current Motor information. As shown in Figure 19.

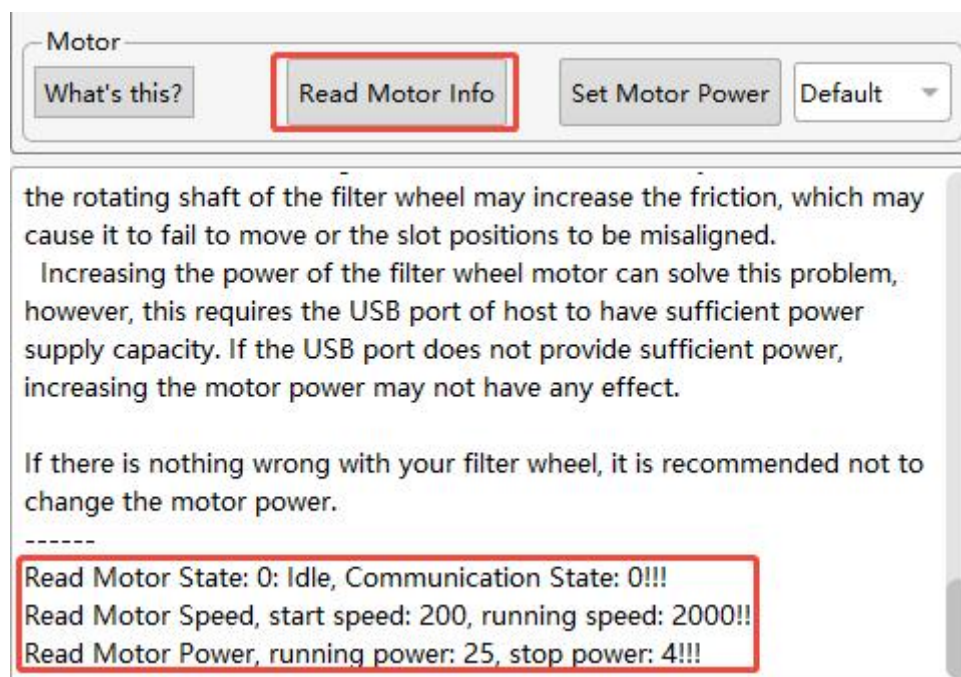


Figure 19

Then select the desired value from the drop-down list. For example, let's take "High" as an example here. As shown in Figure 20.

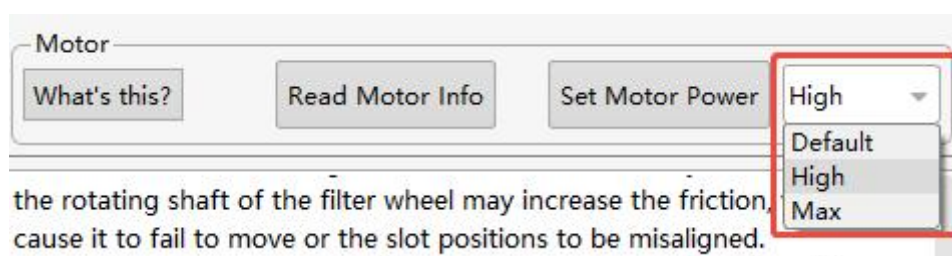


Figure 20

Click on "Set Motor Power" and wait for the setting to be completed. As shown in Figure 21.

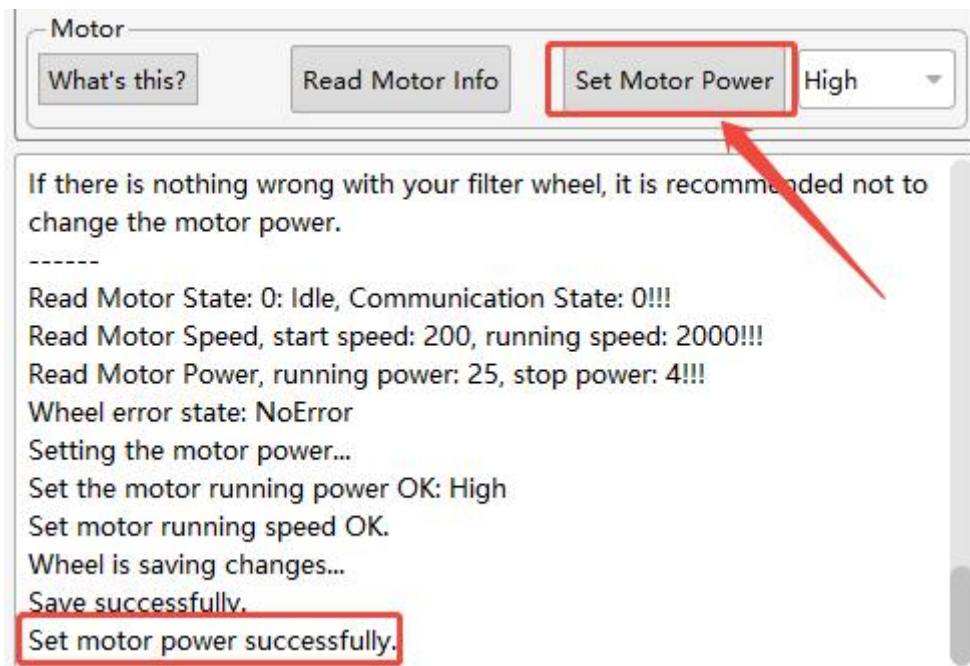


Figure 21

Finally, click "Read Motor Info" again to check.